

Response Under 37 C.F.R. § 41.41
Appellant's Brief dated March 21, 2011
Application No.: 10/564,674
Attorney Docket No.: 0470-060131

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application No. : 10/564,674 Confirmation No. : 1707
Applicants : MARCEL WIJLAARS et al.
Filed : 7/15/2004
Title : TISSUE SUBSTITUTE MATERIAL
Group Art Unit : 1615
Examiner : Caralynne Helm
Customer No. : 28289

Mail Stop Appeal Brief - Patents

Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450

REPLY BRIEF

Sir:

In response to the Examiner's Answer dated January 20, 2011, and in further support of the Appellants Appeal Brief filed on October 11, 2010 and supplemented on October 28, 2010, Appellants submit this Reply Brief.

The Examiner mistakenly contends (for the first time) that, while Pissis teaches using nylon in nanoparticle form, these nanoparticles mysteriously measure up to a millimeter or more.¹ The premise of this position is based on the Examiner's unsupported argument that Pissis's use of "nanoparticle" has no consistent interpretation and does not convey size. To the

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03/21/2011

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Mary Ann Mulvihill

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¹ See Examiner's Answer at page 15.

contrary, the prefix "nano" conveys size – that the nylon is measured in nanometers. In fact, the accepted definition of "nanoparticle" is a particle having an approximate length of 1 to 100 nanometers.² The Examiner's unsupported definition of "nanoparticle" contradicts the common understanding of the term. Thus, Pissis does not teach or suggest nylon having a length of at least one millimeter because such a particle would be approximately 10 times larger than a nanoparticle.

On page 16 of the Answer, the Examiner contends that Figure 2(c) and Figure 2(d) in Young teaches a fiber that is longer than one millimeter. However, it is unknown how these figures show a contiguous nylon or spandex fiber that is larger than one millimeter. It is just as likely that these images show fibers smaller than one millimeter. Young's Figures 2(c) and (d) (which are reproduced below) do not illustrate a millimeter of any fiber because the image does not represent an entire millimeter. Even assuming that the fibers continue past the borders of the image, it is uncertain where one fiber ends and the next begins within the image. Figures 2(c) and (d) may show multiple fibers bound together in some fashion that is indiscernible from the image. One cannot tell without more, and Young does not provide more information to permit one to make a determination.

² See "Nanoparticles: An Occupational Hygiene Review," Inst. Of Occup. Med. (2004) available at <http://www.hse.gov.uk/research/rrpdf/rr274.pdf> (visited March 17, 2011):

Few formal definitions of nanoparticles or nanoparticle aerosols have been published. The definition most often implied is from the definition of nanotechnology. For example, the Interagency Subcommittee on Nanoscale Science, Engineering and Technology (NSET) of the US Federal Office of Science and Technology Policy defines nanotechnology as: "Research and technology development at the atomic, molecular or macromolecular levels, in the length scale of approximately 1 - 100 nanometre range, to provide a fundamental understanding of phenomena and materials at the nanoscale and to create and use structures, devices and systems that have novel properties and functions because of their small and/or intermediate size. The novel and differentiating properties and functions are developed at a critical length scale of matter typically under 100 nm". (EPA, 2003). A similar definition has been proposed by the Royal Society, "Nanotechnology is the production and application of structures, devices and systems by controlling shape and size at nanometre scale." (Royal Society, 2004). Although not specifically describing nanoparticles, these definitions imply a nanoparticle definition of particle less than 100 nm.

See also "Florida State University: Environmental Health & Safety: Nanosafety Program" available at <http://www.safety.fsu.edu/lab-nano.html> (visited March 17, 2011).

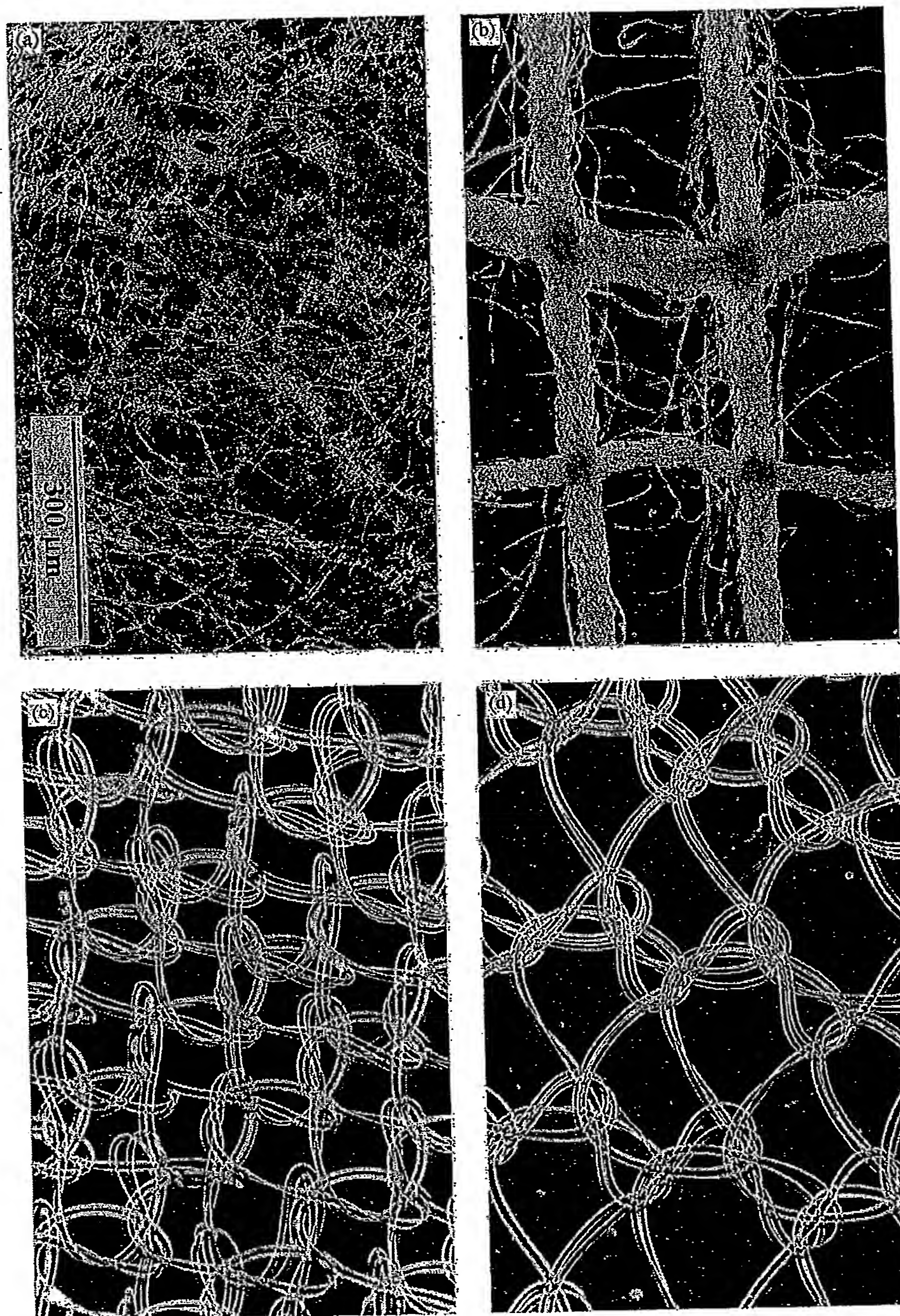


Fig. 2. Microscopic morphologies of the fiber-reinforced pHEMA membranes. (a)W2, (b)G2, (c)S2 and (d)S2N.

“In deciding obviousness, one must look at the prior art from the vantage point in time *prior* to when the invention was made; hindsight obviousness after the invention was made is not the test.” *In re Carroll*, 601 F.2d 1184 (CCPA 1979). The Examiner is not permitted to

use the claims as a road map to search the prior art references and pick-and-choose necessary elements to recreate the claimed invention. *W.L. Gore & Assoc., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1552 (Fed. Cir. 1983). Thus, it is necessary for the Examiner to forget what he or she has learned from the examined specification and cast the mind back to a time prior to the date of invention. *Gore*, 721 F.2d at 1553.

To insure that hindsight reasoning is avoided, the Board should look for evidence of some teaching, suggestion or motivation to make the variation or combination outside of what is taught by the specification. *Rolls-Royce, PLC v. United Technologies Corp.*, 603 F.3d 1325, 1338 (Fed. Cir. 2010). For example, in *Rolls-Royce*, the Federal Circuit found that since the prior art did not show that CFD simulations show end-wall shock, one would not have reasonably expected this.

Here, the Examiner's Answer also illuminates the use of improper hindsight reasoning. On page 13, the Examiner admits that "the full combination of references is silent to this property" – the swellability of the fibers as recited in claim 8. Yet, the Examiner contends that if nylon or spandex were included in Malmonge, the resulting combination would achieve swellable fibers. The Examiner's "reasoning" jumps to the conclusion without providing the reason why one would expect the fibers to swell. The only reason that can possibly exist is that, since the inventors disclosed that the fibers will swell, then one would have reasonably believed this to be the case. Such reasoning is improper hindsight reasoning.

Finally, the Examiner contends that "the Appellants do not provide arguments disputing the obviousness of the instant invention over Malmonge *et al.* in view of Slivka *et al.*, Pississ *et al.*, Young *et al.*, and Kou *et al.* Therefore the invention of the instant claims is obvious over [these references]." This plainly misstates the Appellants' arguments and attempts to pull the wool over the Board's eyes. On page 5, under item number 2 of its opening brief, Appellants noted that it appeals the rejection of claims 8 and 10-11, which stand rejected as obvious over Malmonge in view of Slivka, Pississ, Young, and Kou. In fact, in the conclusion section of their opening brief, the Appellants stated that "[t]he Examiner has asserted two sets of rejections under 35 U.S.C. § 103: one against claims 8, 9 and 12-15, and a second against

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claims 8, 10 and 11. Both sets of rejections are at least based on the combination of Malmonge, Slivka, Pissis and Young.”³ While the Appellants did not assert a separate argument directed against the second rejection, the two rejections stand and fall together because Kou does not overcome any of the issues raised in the opening brief or this reply brief. This is further apparent by the Examiner's failure to provide any reason how Kou cures the deficiencies raised by the Appellants.

For the reasons set forth in its Appeal Brief and this Reply Brief, Appellants respectfully request that the Examiner's rejections of claims 8-14 be reversed, and that these claims be allowed.

Respectfully submitted,

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³ Appellants Appeal Brief dated October 11, 2010 at page 17.